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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/706,212	11/12/2003	Michael E. Connell	5083.1US (01-0428.01/US)	6326
24247	7590	10/07/2005	EXAMINER	
TRASK BRITT P.O. BOX 2550 SALT LAKE CITY, UT 84110			WILSON, ALLAN R	
			ART UNIT	PAPER NUMBER
			2815	

DATE MAILED: 10/07/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/706,212	<b>Applicant(s)</b> CONNELL ET AL.	
	<b>Examiner</b> Allan R. Wilson	<b>Art Unit</b> 2815	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 23 August 2005.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-24 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Claim Objections***

Claim 19 is objected to because of the following informalities:

Claim 19 recites the limitation “the stress-balancing layer” in line 8. There is insufficient antecedent basis for this limitation in the claim.

Appropriate correction is required.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-24 are rejected under 35 U.S.C. 102(e) as being anticipated by 2003/0017652 to Sakaki et al. Regarding claims 1, 7, 13 and 19, Sakaki teaches in figure 3 a semiconductor die comprising:

a semiconductor substrate 1 having a front side 1B and a back side 1A and having a low ratio of height to horizontal dimension (see fig. 2);

an integrated circuit on a portion of the front side (note that the front side is also labeled 1X which is designated the “circuit formation surface”);

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a passivation layer 7 (resin, para. 0096) covering a portion of the integrated circuit causing a stress on at least a portion of the substrate; and

a stress or force balancing layer 2 covering at least a portion of the backside substantially balancing the stress caused by the passivation layer covering a portion of the integrated circuit (see paras. 0106 and 0107, esp. 0107 at the third sentence *et. seq.*, which teach that layer 7 causes a stress which is compensated by layer 2), the stress or force balancing layer comprising at least one of a tape material (2 in FIG. 8) and an adhesive material (paragraph 127, layer 2 is thermally adhered to substrate 1). Additionally, “a chemical vapor deposition material” and “a physical vapor deposition material” are product by process limitations (see MPEP 2113).

Regarding claims 2-4, 8-10, 14-16 and 20-22, Sakaki teaches that the balancing layer is a resin, which may be considered either a single component layer or a homogenous mixture of a strong material, is an adhesive (as it adheres to substrate 1) and may be marked by a laser (an intended use). Regarding claims 5, 6, 11, 12, 17, 18, 23 and 24, Sakaki teach in figure 9 an adhesive layer 41A attached to the stress-balancing layer 2 (para. 0136), which adhesive layer may be marked by a laser (an intended use).

### ***Response to Arguments***

Applicant's arguments filed 08/04/2005 have been fully considered but they are not persuasive.

The argument that Sakaki reference does not describe the elements calling for the stress or force balancing layer comprising at least one of a tape material and an adhesive material is not persuasive. Sakaki clearly illustrates in FIG. 8 and describes in paragraphs 123-134 the stress or

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force balancing layer 2 comprising a tape material. Particularly paragraph 132 discloses "a resin film 2 and a spacer tape 36 from a reel 35A." Sakaki also disclose in paragraph 127 "a sticking unit for sticking a resin film 2 on the back surface of the semiconductor wafer by thermal crimping." The resin film adheres to the wafer when heated by a heating roller 31A. Therefore, the resin film 2 is a thermally activated adhesive material.

Any inquiry concerning this communication or earlier communications from an examiner should be directed to Primary Examiner Allan Wilson whose telephone number is (571) 272-1738. Examiner Wilson can normally be reached 7:00-4:00 Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tom Thomas can be reached on (571) 272-1664. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Allan R. Wilson  
Primary Examiner  
29 September 2005